



UNITED STATES PATENT AND TRADEMARK OFFICE  
(Case No. MBHB02-329-A)

GP1645  
PATENT

# 7

IN THE APPLICATION OF:

McConlogue et al.

Serial No. 10/082,804

Filed: February 22, 2002

Title Transgenic Knockouts Of Bace-1

Examiner: To Be Assigned

Group Art Unit: 1645

Confirmation No.: 2073

Commissioner for Patents  
Washington, D.C. 20231

Sir:

TRANSMITTAL LETTER

In regard to the above identified application:

1. We are transmitting herewith the attached:

- Information Disclosure Statement ;
- Form PTO-1449;
- Copy of IDS Citations for S/N 10/082,804 (Total 47; 6 U.S. patents, 3 U.S. patent applications, 7 foreign patents, and 31 other documents); and
- Return Receipt Postcard.

2. With respect to additional fees:

☒ No additional fee is required.

3. Please charge any additional fees or credit overpayment to Deposit Account No.13-2490. A duplicate copy of this sheet is enclosed.

4. CERTIFICATE OF MAILING UNDER 37 CFR § 1.8: The undersigned hereby certifies that this Transmittal Letter and the paper, as described in paragraph 1 hereinabove, are being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, Washington, D.C. 20231 on this 16<sup>th</sup> day of August, 2002.

Date: August 16, 2002

By:

Anita J. Terpstra  
Reg. No. 47,132

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PATENT

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OF BACE-1

Examiner: To Be Assigned

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INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents  
Washington, D.C. 20231

Dear Sir:

Pursuant to the duty of disclosure provided by 37 C.F.R. § 1.56 and §§ 1.97-98, the applicants wish to make the following references of record in the above-identified application. Copies of the references are enclosed. The cited international search report was issued in the corresponding PCT application. All references cited within the international search report are of record in this application. Copies of all references cited are also listed in the PTO-1449 form enclosed herewith. It is requested that each document cited (including any cited in applicant's specification which is not repeated on the attached Form PTO-1449) be given thorough consideration and that it be cited of record in the prosecution history of the present application by initialing on Form PTO-1449. Such initialing is requested even if the Examiner does not consider a cited document to be sufficiently pertinent to use in a rejection, or otherwise does not consider it to be prior art for

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any reason, or even if the Examiner does not believe that the guidelines for citation have been fully complied with. This is requested so that each document becomes listed on the face of the patent issuing on the present application.

Portions of the references may be material to the examination of the pending claims, however no such admission is intended. 37 C.F.R. 1.97 (h). The references have not been reviewed in sufficient detail to make any other representation and, in particular, no representation is intended as to the relative importance of any portion of the references. This Statement is not a representation that the cited references have effective dates early enough to be "prior art" within the meaning of 35 U.S.C. sections 102 or 103.

### **CITED REFERENCES**

#### **U.S. Patent Documents**

<b><u>Ref. Des.</u></b>	<b><u>Document Number</u></b>	<b><u>Date</u></b>	<b><u>Name</u></b>
A1	4,666,829	05/19/1987	Glenner et al.
A2	5,612,486	03/18/1997	McConlogue, et al.
A3	5,811,231	09/22/1998	Farr et al.
A4	6,040,138	03/21/2000	Lockhart et al.
A5	6,114,133	09/05/2000	Seubert et al.
A6	6,204,061	03/20/2001	Capecchi et al.

#### **U.S. Patent Applications**

<b><u>Ref. Des.</u></b>	<b><u>Application Number</u></b>	<b><u>Filing Date</u></b>	<b><u>Name</u></b>
A7	60/271,092	02/23/2001	
A8	60/271,514	02/26/2001	

A9                      60/293,762                      05/25/2001

**Foreign Patent Applications**

<u>Ref. Des.</u>	<u>Document Number</u>	<u>Date</u>	<u>Country</u>
B1	WO 97/07669	03/06/1997	PCT International
B2	WO 98/30683	07/16/1998	PCT International
B3	WO 98/37183	08/27/1998	PCT International
B4	WO 98/39416	09/11/1998	PCT International
B5	WO 99/37143	07/29/1999	PCT International
B6	WO 00/17369	03/30/2000	PCT International
B7	WO 00/72880	12/07/2000	PCT International

**Other Documents (Including Author, Title, Date Pertinent Pages, Etc.)**

- C1     International Search Report from PCT/US02/05639.
- C2     Acquati et al., "The gene encoding DRAP (BACE2), a glycosylated transmembrane protein of the aspartic protease family, maps to the Down critical region," FEBS Letters 468(1):59-64 (2000).
- C3     Altschul et al., "Basic Local Alignment Search Tool," J. Mol. Biol. 215:403-410 (1990).
- C4     Borchelt et al., "Accelerated Amyloid Deposition in the Brains of Transgenic Mice Coexpressing Mutant Presenilin 1 and Amyloid Precursor Proteins," Neuron 19:939-945 (1997).
- C5     Bradley et al., "Formation of germ-line chimaeras from embryo-derived teratocarcinoma cell lines." Nature 309:255-256 (1984).
- C6     De Strooper et al., "Deficiency of presenilin-1 inhibits the normal cleavage of amyloid precursor protein," Nature 391:387-390 (1998).

- C7 Farzan et al., "BACE2, a  $\beta$ -secretase homolog, cleaves at the  $\beta$  site and within the amyloid- $\beta$  region of the amyloid- $\beta$  precursor protein," Proc. Nat'l. Acad. Sci. 97(17):9712-9717 (2000).
- C8 Glenner & Wong, "Alzheimer's Disease and Down's Syndrome: Sharing of a Unique Cerebrovascular Amyloid Fibril Protein," Biochemical and Biophysical Research Communications 120:1131 (1984).
- C9 Hardy et al., "Amyloid, the presenilins and Alzheimer's disease," TINS 20:154-159 (1997).
- C10 Henikoff & Henikoff, "Amino acid substitution matrices from protein blocks," Proc. Nat'l. Acad. Sci. USA 89:10915-10919 (1992).
- C11 Hsiao et al., "Correlative Memory Deficits, A $\beta$  Elevation, and Amyloid Plaques in Transgenic Mice," Science 274:99-102 (1996).
- C12 Huber et al., "cDNA Cloning and Molecular Characterization of Human Brain Metalloprotease MP100: A  $\beta$ -Secretase Candidate?" Journal of Neurochemistry 72:1215-1223 (1999).
- C13 Jaenisch et al., "Transgenic animals," Science 240:1468-1474 (1988).
- C14 Johnson-Wood et al., "Amyloid precursor protein processing and A $\beta_{42}$  deposition in a transgenic mouse model of Alzheimer disease," Proc. Nat'l. Acad. Sci. USA 94:1550-1555 (1997).
- C15 Kang et al., "The Precursor of Alzheimer's Disease Amyloid A4 Protein Resembles a Cell-Surface Receptor," Nature 325:733-736 (1987).
- C16 Karlin & Altschul, "Applications and statistics for multiple high-scoring segments in molecular sequences," Proc. Nat'l. Acad. Sci. USA 90:5873-5787 (1993).


- C17 Kitaguchi et al., "Novel precursor of Alzheimer's disease amyloid protein shows protease inhibitory activity," Nature 331:530 (1988).
- C18 Lai et al., "Production of  $\alpha$ -1, 3-Galactosyltransferase Knockout Pigs by Nuclear Transfer Cloning," Science 295:1089-1092 (2002).
- C19 Needleman & Wunsch., "A General Method Applicable to the Search for Similarities in the Amino Acid Sequence of Two Proteins," J. Mol. Biol. 48:443 (1970).
- C20 Pearson & Lipman, "Improved tools for biological sequence comparison," Proc. Nat'l. Acad. Sci. USA 85:2444-2448 (1988).
- C21 Ponte et al., "A New A4 Amyloid mRNA contains a domain homologous to serine proteinase inhibitors," Nature 331:525-527 (1988).
- C22 Roberds et al., "BACE knockout mice are healthy despite lacking the primary  $\beta$ -secretase activity in brain: implications for Alzheimer's disease therapeutics," Human Molecular Genetics 10:1317-1324 (2001).
- C23 Roger et al., "Behavioral and functional analysis of mouse phenotype: SHIRPA, a proposed protocol for comprehensive phenotype assessment," Mamm. Genome 8:711-713 (1997).
- C24 Selkoe et al., "Normal and Abnormal Biology of the  $\beta$ -Amyloid Precursor Protein," Annual Rev. Neurosci 17:489-517 (1994).
- C25 Sinha et al., "Cellular mechanisms of  $\beta$ -amyloid production and secretion," Proc. Natl. Acad. Sci. USA 96:11049-11053 (1999).
- C26 Sinha et al., "Purification and cloning of amyloid precursor protein  $\beta$ -secretase from human brain," Nature 402:537-540 (1999).
- C27 Smith & Waterman, "Comparison of Biosequences," Adv. Appl. Math. 2:482 (1981).

- C28 Sturchler-Pierrat et al., "Two amyloid precursor protein transgenic mouse models with Alzheimer disease-like pathology," Proc. Nat'l. Acad. Sci. USA 94:13287-13292 (1997).
- C29 Vassar et al., " $\beta$ -Secretase Cleavage of Alzheimer's Amyloid Precursor Protein by the Transmembrane Aspartic Protease BACE," *Science* 286:735-741 (1999).
- C30 Wattler et al., "Construction of Gene Targeting Vectors from  $\lambda$ KOS Genomic Libraries." Biotechniques 26:1150-1160 (1999).
- C31 Yan et al., "Membrane-anchored aspartyl protease with Alzheimer's disease  $\beta$ -secretase activity," Nature 402:533-537 (1999).

Respectfully submitted,

**McDonnell Boehnen Hulbert & Berghoff**

Date: August 16, 2002

By:   
**Anita J. Terpstra**  
**Reg. No. 47,132**

Form PTO-1449 (modified)

Atty. Docket No.  
MBHB02-329-ASerial No.  
10/082,804

## List of Patents and Publications for Applicant's

Applicant  
McConlogue et al.

## INFORMATION DISCLOSURE STATEMENT

(Use several sheets if necessary)

Filing Date:  
February 22, 2002Group:  
1645U.S. Patent Documents  
*See Page 1*Foreign Patent Documents  
*See Page 1 & 2*Other Art  
*See Page 2, 3 & 4*

## U.S. Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Name	Class	Sub Class	Filing Date of App.
	A1	4,666,829	05/19/1987	Glenner et al.			
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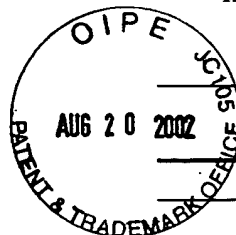
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